Speech to the US EPA - Tier 2 Workshop
Washington, DC
April 23, 1997

My name is Patrick Pierz, and I am the Vice President of Ricardo's North American Technical Center. Ricardo is one of the world's largest independent engineering consultants to the internal combustion engine's industry.

We have been following the work of the EPA very closely, and today I would like to specifically address the future Tier 2 Light Duty emissions particularly as they relate to diesel engines. This is not to say other fuels are not also of interest, but with the limited speaking time available, they will have to be addressed separately.

The reputation of diesel engines in passenger cars suffered badly in the 70's and 80's. Performance of these engines in terms of emissions, reliability and driveability was to say the least lacking. But they were introduced to meet a critical need, namely better fuel consumption. Given the fore-mentioned problems, and the advances in gasoline powered vehicles, the diesel engine became all but extinct in the North American light duty vehicle and light duty truck categories.

But of late, there are very encouraging signs that that is about to change. Spurred on by the success of the latest generation High Speed Direct Injection diesel in Europe and the incredible popularity of the medium duty diesel engines installed in the large pick-up trucks today, we see universal interest in the development of these latest generation HSDI engines for North American SUV's and pick-up trucks. Given the major advances in refinement, reliability, and sociability of these latest generation engines, not to mention class leading performance, and up to 30 to 50% improvements in fuel consumption over comparable power gasoline engines, the consensus is the customer is ready to give it another try.

Unfortunately, we are in a "Catch-22" situation. Engine and vehicle manufactures are going to be hesitant, if not completely unwilling, to invest the hundreds of millions of dollars necessary to build and develop this class of engine without some assurance that the longevity of the product will be sufficient to justify the investment. We therefore have no representative engines, or database, from which to answer all the excellent questions posed in the Tier 2 White Paper. Without this experience to draw-upon, setting realistic emission targets is impossible, and thus we are stalemated.

I would therefore ask that the EPA consider setting standards which show genuine improvement over the Tier 1 standards, but not as stringent as those proposed in Table 1 of the Tier 2 White Paper. Early predictions indicate that it may be impossible to meet these standards with the advanced technology listed in the White Paper. But we really can't be certain until actual engines are available and developed for the years necessary to prove production feasible configurations. It would bee a shame if a whole new class of engines with the ability to meet and exceed customers expectations is never developed to its full potential. Especially with the ability to deliver vastly better fuel consumption, a goal which I know is of interest to the EPA as well.

In summary, we share your desire to have cleaner air, and applaud your efforts to achieve it. We recognize the real gains made to-date are the results of these efforts. We do however ask that future limits be based on sound scientific data. And when this is not available, as in the case of the large HSDI diesel engine, then a real, but modest reduction is set. This will allow the investment necessary to answer all the questions posed. Aggressive, but achievable emissions limits can then be set at a later date.

Thank you for your kind attention. And if we can be of any assistance in this significant undertaking, please do not hesitate to ask.